

Anonymous Unlinked HIV Seroprevalence Study Among Emergency Room Patients of a New Jersey Inner-City Acute Care Academic Hospital

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Background

Emergency rooms (ERs) may be an effective venue for diagnosing HIV, because patients with limited access to health care use emergency rooms for primary care.

Studying persons using ERs may offer a glimpse of the hard-to-reach, unidentified HIV-infected. These individuals are the most likely to fall through the cracks of the prevention system and the least likely to be captured in other health care settings.

Objectives

- To measure HIV seroprevalence rates among emergency room patients of an urban academic hospital in a high HIV prevalence region of Northern New Jersey
- To describe HIV seroprevalence rates within population subgroups
- To compare the distribution of HIV seroprevalence between population subgroups of previously diagnosed and undiagnosed patients

Methods

Study Design: An anonymous unlinked survey (AUS) was used. Because the design does not require patient consent, it is unbiased and yields the only true estimate of HIV prevalence.

Study Procedures: Remnant sera from routine clinical laboratory tests were recovered from UMDNJ's diagnostic laboratories. Demographic and clinical information was abstracted from medical charts and temporarily linked to specimens with random IDs. All links were destroyed prior to testing. An FDA approved HIV test was used.

Study Population: 3,193 unduplicated UMDNJ emergency room patients ≥ 18 years

Study Period: October 7 - December 31, 2002

Variables: age, gender, race, type of insurance, illicit drug use, HIV testing history

Results

HIV Seroprevalence

10.4% overall seroprevalence rate:

- 11.0% among men; 9.6% among women
- 12.7% among African Americans; 6.5% among Hispanics; 3.6% among Whites
- 17.8% among persons ages 35 - 50; 6.4% among persons <35 and 6.3% among persons ≥ 50

HIV Seroprevalence by Age Group and Gender

HIV infection was associated with increasing age for patients <45 and peaked among patients ages 40 - 44. For patients ≥ 45 , age was associated with lower prevalence.

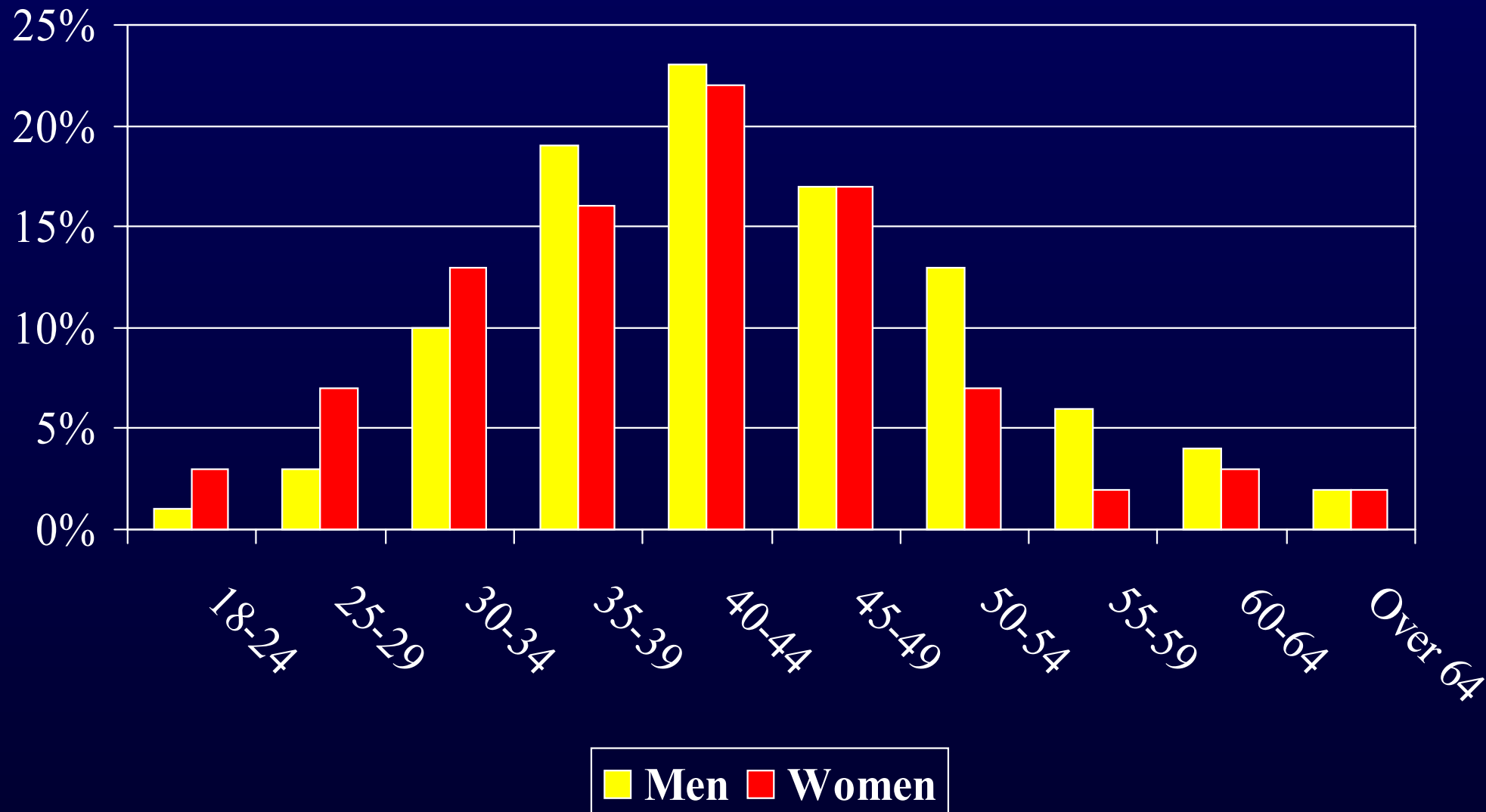
The infection rate was similar among men and women ages 35 - 50. However, women <35 had higher seroprevalence than men <35 , but men ≥ 50 had higher seroprevalence than women ≥ 50 (Table 1 and Figure 1).

Table 1. HIV Seroprevalence by Age Group and Gender

	Male		Female		Total	
Age	Tested Nb.	HIV+ Nb. (%)	Tested Nb.	HIV+ Nb. (%)	Tested Nb.	HIV+ Nb. (%)
<35	487	26 (5)	599	43 (7)	1086	69 (6)
35-50	613	107 (17)	505	92 (18)	1118	199 (18)
≥50	520	46 (9)	463	16 (3)	983	62 (6)
Total¹	1,620	179 (11)	1,567	151 (10)	3,187	330 (10)

1. Does not include individuals missing gender or age data.

Figure 1. HIV Serorevalence by Age Group and Gender



HIV Seroprevalence by Race/Ethnicity and Gender

For men, seroprevalence among African Americans was almost twice that of Hispanics, and more than seven times that of Whites. For women, seroprevalence among African Americans was about twice that of both Hispanics and Whites (Table 2).

For African Americans and Hispanics, men had higher seroprevalence than women. The reverse was true for Whites (Figure 2).

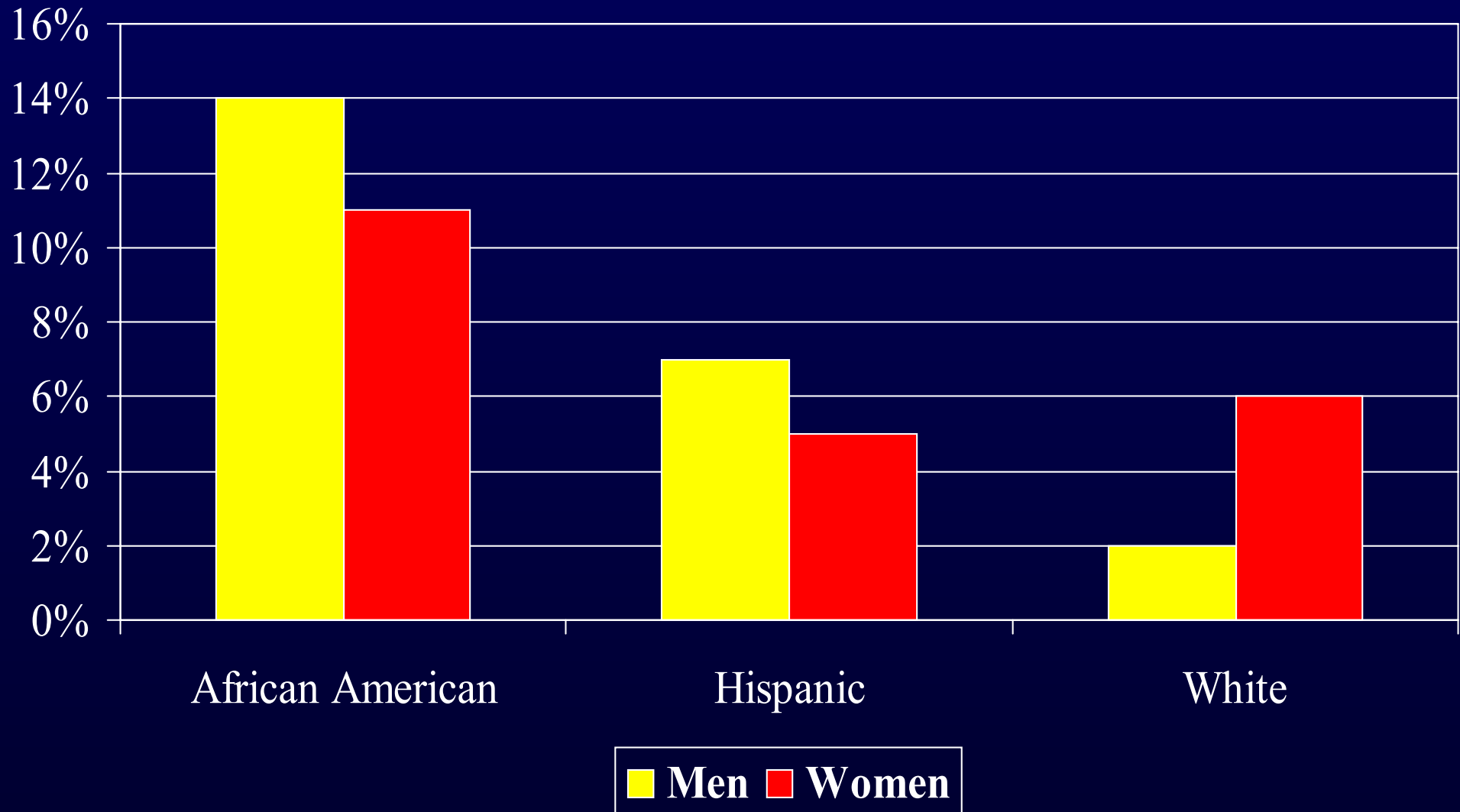
Table 2. HIV Seroprevalence by Race/Ethnicity and Gender

	Male		Female		Total	
Race/Ethnicity ¹	Tested No.	HIV+ No. (%)	Tested No.	HIV+ No. (%)	Tested No.	HIV+ No. (%)
African American	1,034	148 (14)	1,136	127 (11)	2,170	275 (13)
Hispanic	191	14 (7)	147	8 (5)	338	22 (7)
White	201	5 (2)	106	6 (6)	307	11 (4)
Other/Unknown	194	12 (6)	178	10 (6)	372	22 (6)
Total²	1,620	179 (11)	1,567	151 (10)	3,187	330 (10)

1. African American and White do not include Hispanic

2. Does not include individuals missing gender or age data.

Figure 2. HIV Seroprevalence by Race/Ethnicity and Gender



HIV Seroprevalence of Patients Reporting Illicit Drug Use

6% of patients reported illicit injection drug use;
40% of these were seropositive

15% of patients reported illicit non-injection drug use;
19% of these were seropositive

Overall, Heroin users had the highest rate of infection among illicit drug users, but among injection drug users, Cocaine users had higher HIV seroprevalence than Heroin users (Table 3).

Table 3. HIV Seroprevalence of Patients Reporting Illicit Drug Users

Drug	Injection		Non-injection		Total	
	Tested	HIV+	Tested	HIV+	Tested	HIV+
	Nb.	Nb. (%)	Nb.	Nb. (%)	Nb.	Nb. (%)
Heroin	165	62 (38)	160	33 (21)	325	95 (29)
Cocaine	56	24 (43)	252	56 (22)	308	80 (18)
Other/Unknown	38	18 (47)	245	35 (14)	283	53 (19)
Total	204	82 (40)	482	92 (19)	658	174 (25)

HIV Seroprevalence of Patients by Type of Insurance

Patients indicating Medicaid had the highest seroprevalence rate (21%) followed by patients indicating no insurance (10%), Private / HMO (6%) and Medicare / SSI (6%).

The largest proportion of HIV seropositive patients indicated no insurance (36%) followed by Medicaid (27%), Private / HMO (15%) insurance and Medicare / SSI (7%).

Insurance status was unknown for 15% of seropositive patients.

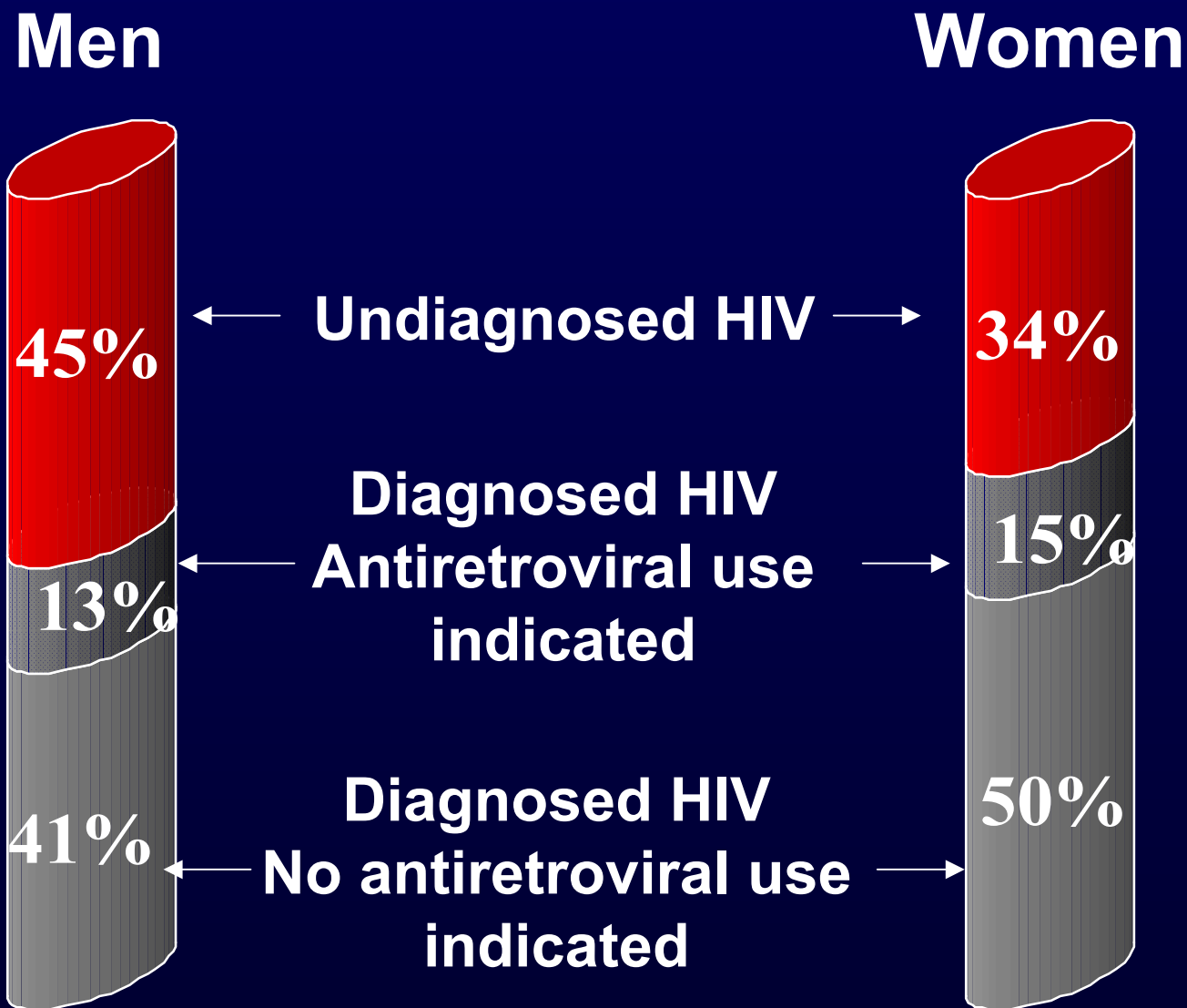
Knowledge of HIV Serostatus by Gender

198 of 332 (60%) HIV-infected patients were previously diagnosed and knew their serostatus

A greater proportion of HIV-infected women (66%) knew their serostatus compared with men (55%).

47 of 198 (24%) previously diagnosed patients were on antiretroviral therapies: 13% of men and 14% of women (Figure 3)

Figure 3. Comparison of Knowledge of HIV Status by Gender



Knowledge of HIV Serostatus by Race/Ethnicity

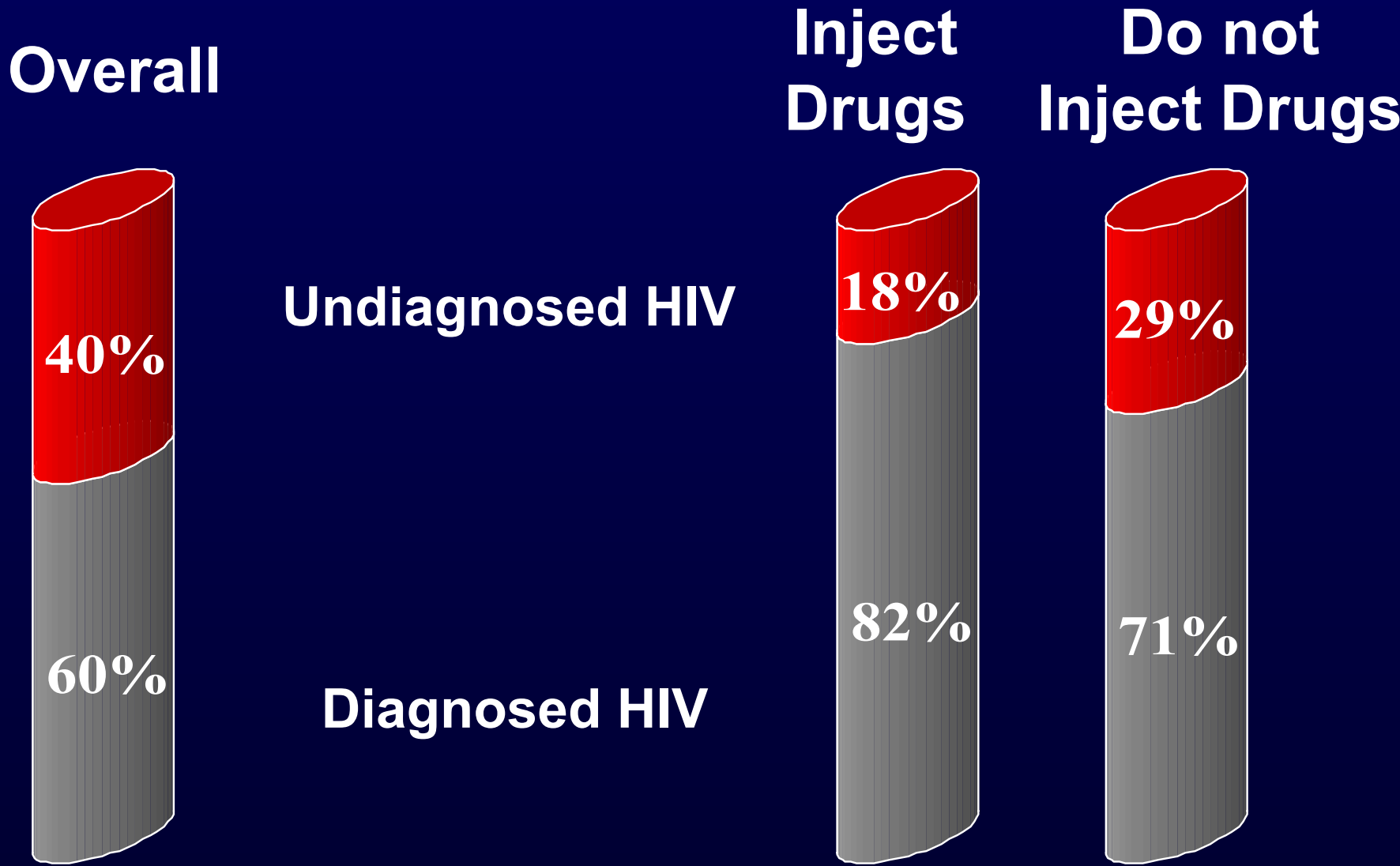
More HIV seropositive Hispanics (64%) knew their serostatus by race/ethnicity followed by African Americans (58%) and Whites (55%).

Knowledge of HIV Serostatus of Patients Reporting Illicit Drug Users

82% of HIV-infected patients indicating illicit injection drug use were previously diagnosed

71% of patients indicating illicit non-injection drug use were previously diagnosed (Figure 4)

Figure 4. Knowledge of HIV Serostatus Patients Overall Versus Illicit Drug Users



Knowledge of HIV Status by Type of Insurance

58% of seropositive patients indicating no insurance were previously diagnosed compared with 75% of patients with Medicare / SSI, 68% with Medicaid, and 61% with Private / HMO insurance

Summary of Results and Conclusion

- 332 of 3,193 (10.4%) patients were seropositive
- Patients ages 40 - 44 had the highest HIV seroprevalence rate (21%) by age group followed by patients 35 - 39 and 45 - 49 (16%). Patients 18 - 24 and ≥ 65 had the lowest seroprevalence (2%).
- African Americans had the highest HIV seroprevalence rate (13%) by race/ethnicity followed by Hispanics (7%) and Whites (4%)
- 40% of IDUs and 19% of non-IDUs indicating illicit drug use were seropositive

- 55% of men and 66% of women knew their serostatus; 24% were on antiretroviral therapies
- HIV+ patients indicating illicit drug use were more likely to know their serostatus than HIV+ patients not indicating drug use
- HIV+ patients who knew their serostatus tended to have insurance

Based upon the high HIV seroprevalence rate found and the large percentage of seropositive individuals unaware of their infection, hospital emergency room HIV screening represents a prevention opportunity for persons not seeking HIV-related services.